

IN THE CLAIMS

Claims 1-15 (Canceled)

16 (New) A method for immunoassay with a magnetic material label and a Superconducting Quantum Interference Device, the method comprising:

- (1) preparing an analyte labeled with said magnetic material label;
- (2) applying said analyte labeled with said magnetic material label, to an antigen fixed to a support so that said analyte is bounded to said antigen by means of an antibody/antigen reaction;
- (3) magnetizing said magnetic material label on said analyte bounded to said antigen, by a magnetic field, thereby forming a magnetized magnetic material labeled analyte; and
- (4) while continuing to apply said magnetic field which magnetizes the magnetic material label, detecting the magnetized magnetic material label by sensing, by use of said Superconducting Quantum Interference Device, a magnetic flux component which is generated from said magnetized magnetic material label and which is at a right angle to the direction of said magnetic field which magnetizes said magnetic material label.

17. (New) A method claimed in Claim 16, wherein said magnetic field which magnetizes said magnetic material label is a static magnetic field.

18. (New) A method claimed in Claim 16, wherein said Superconducting Quantum Interference Device detects variation of the strength of said magnetic flux component which is generated from said magnetized magnetic material label and which is at the right angle to the direction of said magnetic field which magnetizes said magnetic material label, by moving said magnetized magnetic material labeled analyte through said magnetic field which magnetizes said magnetic material label.

19. (New) A method claimed in Claim 16, wherein said magnetized magnetic material labeled analyte moves in parallel to said magnetic field which magnetizes said magnetic material label.

20. (New) A method for immunoassay with a magnetic material label and a Superconducting Quantum Interference Device, the method comprising:

- (a) preparing an analyte labeled with said magnetic material label;
- (b) applying said analyte labeled with said magnetic material label, to an antigen fixed to a support so that said analyte is bounded to said antigen by means of an antibody/antigen reaction;
- (c) magnetizing said magnetic material label on said analyte bounded to said antigen, by a first magnetic field along a first direction, thereby forming a magnetized magnetic material labeled analyte; and
- (d) while continuing to apply said magnetic field which magnetizes the magnetic material label, and while moving said magnetized magnetic material labeled analyte in said first direction, detecting the magnetized magnetic material label by sensing, by use of said Superconducting Quantum Interference Device, a variation of the strength of a magnetic flux component generated from the magnetized magnetic material label, along a second direction perpendicular to said first direction.

21. (New) A method claimed in Claim 20, wherein said magnetic field which magnetizes said magnetic material label is a static magnetic field.

22. (New) A method claimed in Claim 20, wherein said step (d) is performed by moving said support in said first direction through said magnetic field which magnetizes said magnetic material label.

23. (New) A method claimed in Claim 16, wherein said step (4) is performed by moving said support through said magnetic field which magnetizes said magnetic material

label so that said magnetized magnetic material labeled analyte passes within a detection region of said Superconducting Quantum Interference Device.

24. (New) A method claimed in Claim 23, wherein a portion of said support has a sufficient length so that in the course of moving said support through said magnetic field which magnetizes said magnetic material label, a portion of said support exists within said detection region of said Superconducting Quantum Interference Device without said magnetized magnetic material labeled analyte.

25. (New) A method claimed in Claim 20, wherein said step (d) is performed by moving said support through said magnetic field which magnetizes said magnetic material label so that said magnetized magnetic material labeled analyte passes within a detection region of said Superconducting Quantum Interference Device.

26. (New) A method claimed in Claim 25, wherein a portion of said support has a sufficient length so that in the course of moving said support through said magnetic field which magnetizes said magnetic material label, a portion of said support exists within said detection region of said Superconducting Quantum Interference Device without said magnetized magnetic material labeled analyte.